

Safety Data Sheet



DuPont™ Starblast® XL

Version 2.0

Revision Date 05/29/2015

Ref. 130000030940

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DuPont™ Starblast® XL
Product Use : Abrasive blasting, Sand blasting, For industrial use only.

Restrictions on use : Do not use product for anything outside of the above specified uses
Manufacturer/Supplier : DuPont
1007 Market Street
Wilmington, DE 19898
United States of America

Product Information : 1-302-774-1000
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

Other information : professional use

SECTION 2. HAZARDS IDENTIFICATION

Not classified as a hazardous substance or mixture according to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard 2012.

Other hazards

The product, as shipped, poses a minimal inhalation health hazard because the bulk of the particles are in the non-inhalable size range. However, if during handling or use the particles are broken down to a size that can be inhaled, the dusts may be harmful to the respiratory system., Use appropriate Personal Protective Equipment (PPE) such as an air supplied respirator approved for sandblasting., Product dust may be irritating to eyes, skin and respiratory system., Wash hands before breaks and at the end of workday.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 99 %

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| Eye contact | : Rinse with plenty of water. |
| Ingestion | : No specific intervention is indicated. Consult a physician if necessary. |
| Most important symptoms/effects, acute and delayed | : irritant effects |
| Protection of first-aiders | :
Not applicable |
| Notes to physician | : No special protective equipment required. |

SECTION 5. FIREFIGHTING MEASURES

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| Suitable extinguishing media | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | : None known. |
| Specific hazards | : Not a fire or explosion hazard. |
| Special protective equipment for firefighters | : No special protective equipment required. |
| Further information | : The product itself does not burn. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

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| Safeguards (Personnel) | : Avoid breathing dust. |
| Environmental precautions | : Do not flush into surface water or sanitary sewer system. |
| Spill Cleanup | : Pick up and arrange disposal without creating dust. After cleaning, flush away traces with water. |

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generating activities such as, for example, abrasive blasting.

- Eye protection : Wear safety glasses with side shields.
- Skin and body protection : Where there is potential for skin contact have available and wear as appropriate impervious gloves, apron, pants, and jacket.
- Protective measures : The stated hazards of this material are based on non-inhalable particles that are the bulk fraction of the delivered product. However, if during handling or use the particles are broken down to the inhalable or respirable size range, the dusts may be harmful to the respiratory system. Inhalable quartz is an IARC Category 1 carcinogen and applicable exposure limits should be referenced.

Exposure Guidelines Exposure Limit Values

Zircon

Permissible exposure limit:	(OSHA)	5 mg/m3	8 hr. TWA as Zr
TLV	(ACGIH)	5 mg/m3	TWA as Zr
TLV	(ACGIH)	10 mg/m3	STEL as Zr

Quartz

Permissible exposure limit:	(OSHA)	2.4 millions of particles per cubic foot of air	TWA
		Respirable	

Remarks

The exposure limit is calculated from the equation, $250/(\%SiO_2+5)$, using a value of 100% SiO₂. Lower percentages of SiO₂ will yield higher exposure limits.

Permissible exposure limit:	(OSHA)	0.1 mg/m3	TWA Respirable.
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Remarks

The exposure limit is calculated from the equation, $10/(\%SiO_2+2)$, using a value of 100% SiO₂. Lower percentages of SiO₂ will yield higher exposure limits.

Permissible exposure limit:	(OSHA)	0.3 mg/m3	TWA Total dust.
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Remarks

The exposure limit is calculated from the equation, $30/(\%SiO_2+2)$, using a value of 100% SiO₂. Lower values of % SiO₂ will

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Flammability (solid, gas) : The product is not flammable.

Upper explosion limit : Not applicable

Lower explosion limit : Not applicable

Vapor pressure : Not applicable

Vapor density : Not applicable

Specific gravity (Relative density) : 3.7

Water solubility : insoluble

Solubility(ies) : Not applicable

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : Not applicable

Decomposition temperature : Not applicable

Viscosity, kinematic : Not applicable

Viscosity, dynamic : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable

Possibility of hazardous reactions : None.

Conditions to avoid : Not applicable

Incompatible materials : None.

Hazardous decomposition products : Not applicable

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Eye irritation	: No eye irritation, Rabbit
Skin sensitization	: Did not cause sensitisation on laboratory animals., Mouse Did not cause sensitisation on laboratory animals., Guinea pig
Repeated dose toxicity	: Oral Rat - No toxicologically significant effects were found. Inhalation Rat - No toxicologically significant effects were found.
Carcinogenicity	: Not classifiable as a human carcinogen. In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50 and 250 mg/m3 of respirable TiO2. Slight lung fibrosis was observed at 50 and 250 mg/m3 levels. Microscopic lung tumours were also observed in 13 percent of the rats exposed to 250 mg/m3, an exposure level that caused lung overloading and impairment of rat lungs clearance mechanisms. In further studies, these tumours were found to occur only under particle overload conditions in a uniquely sensitive species, the rat, and have little or no relevance for humans. The pulmonary inflammatory response to TiO2 particles exposure was also found to be much more severe in rats than in other rodent species. The conclusions of several epidemiology studies on more than 20000 TiO2 industry workers in Europe and the USA did not suggest a carcinogenic effect of TiO2 dust on the human lung. Mortality from other chronic diseases, including other respiratory diseases, was also not associated with exposure to TiO2 dust. Based upon all available study results, DuPont scientists conclude that titanium dioxide will not cause lung cancer or chronic respiratory diseases in humans at concentrations experienced in the workplace.
Mutagenicity	: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
Reproductive toxicity	: Animal testing showed no reproductive toxicity.
Teratogenicity	: Animal testing showed no developmental toxicity.

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based studies.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

Material	IARC	NTP	OSHA
Quartz	1	X	
Rutile (TiO ₂)	2B		

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

Rutile (TiO₂)

96 h LC50	:	Pimephales promelas (fathead minnow) > 1,000 mg/l
72 h EC50	:	Pseudokirchneriella subcapitata (green algae) > 100 mg/l
48 h EC50	:	Daphnia magna (Water flea) > 1,000 mg/l

Additional ecological information : Not applicable

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION



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SECTION 16. OTHER INFORMATION

Restrictions for use : Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of the DuPont POLICY Regarding Medical Applications and DuPont CAUTION Regarding Medical Applications.

These products may not be directly added to food or pharmaceuticals and are not recommended for use in medical devices or cosmetics.

Starblast® is a registered trademark of E.I. du Pont de Nemours and Company.

Starblast® XL contains trace quantities of naturally occurring radioactive uranium and thorium (less than or equal to 10 ppm uranium plus 70 ppm thorium = 80 ppm total U + Th or 0.008 % w/w, equivalent to 11 pCi/g or less), and radium (less than or equal to 11 pCi/g). Naturally Occurring Radioactive Material, namely uranium, thorium, and their decay products, including radium, is commonly referred to as "NORM".

The main radiological hazard from the product is internal exposure from small amounts of alpha particles given off by inhaled dust. Industrial hygiene practices aimed at control of airborne dust can lessen the potential for exposure. Overexposure by inhalation to inhaled dusts containing radioactive uranium, thorium, and radium may cause lung cancer. Low level gamma radiation in proximity to bulk or bagged stockpiles of these products may present a lesser, external exposure that can be managed by limiting close proximity for long time periods to large volumes of material.

With respect to dust exposure, evaluation and calculation based upon dosimetry (ICRP 68) yield the following guidance to ensure that inhalation intake is less than a 100 mrem/yr public dose reference point for radionuclides.

For a total dust with aerodynamic diameter of 1 µm, the calculated reference dust level is 17.4 mg/m³. For a total dust with aerodynamic diameter of 5 µm, the calculated reference dust level is 27.0 mg/m³. For a total dust with aerodynamic diameter of 10 µm, the calculated reference dust level is 39.8 mg/m³.

The calculations noted above are based upon 8 hr/day TWAs. It should be noted that for these products, the actual particle physical diameter is approximately 1/2 the effective aerodynamic diameter. For these products, as shipped, with essentially no particles as small as calculated above, the highest total dust level can provide a conservative limit. However, if during handling or use the particles are broken down to finer particle sizes, lower levels of total dust would apply.

These reference calculations for radionuclides may or may not provide the most conservative recommendation vs. other